CLAIMS

1. A method of testing an electronic device, said method comprising:

applying to the electronic device an input test signal having at least one of an analog component, a digital component, and a differential component;

monitoring the response of the electronic device on a differential monitoring device to obtain analog data;

monitoring the response of the electronic device on a tester receiver to obtain digital data;

processing the analog data,

processing the digital data;

comparing the processed analog data and the processed digital data;

evaluating the compared data; and

evaluating the electronic device based on the evaluted data.

2. A method as claimed in claim 1, wherein the processing of the analog data and processing of the digital data includes feeding back analog data for use in processing of the digital data, and feeding back digital data for use in processing of the analog data.

3. A method as claimed in claim 1 further comprising, following the comparing, again processing the analog data and the digital data, and comparing the reprocessed analog data and the reprocessed digital data.

4. A method as claimed in claim 1, further comprising, following evaluating the compared data, adjusting the input test signal, and repeating the method.

5. A method as claimed in claim 4, wherein the test signal is adjusted by adjusting the test signal frequency.

6. A method as claimed in claim 4, wherein the test signal is adjusted by adjusting the test signal level.

7. A method as claimed in claim 1, wherein monitoring the response of the electronic device on a differential monitoring device comprises monitoring the response on a differential oscilloscope.

8. A method as claimed in claim 1, wherein processing the analog data and the digital data comprises determining the rise time and the fall time of a signal in the response of the electronic device.

9. A method as claimed in claim 1, wherein processing the analog data and the digital data comprises determining the ranges of rise times and of fall times within a signal in the response of the electronic device.

10. A method as claimed in claim 1, wherein monitoring the response of the electronic device comprises monitoring an eye diagram.

11. A method as claimed in claim 10, wherein processing the analog data and the digital data comprises determining a rise time and a fall time of a signal in the eye diagram.

12. A method as claimed in claim 10, wherein processing the analog data and the digital data comprises determining the ranges of rise times and of fall times within a signal in eye diagram.

13. A method as claimed in claim 10, wherein processing the analog data and the digital data comprises monitoring boundary conditions in the eye diagram.

14. Apparatus for testing an electronic device, said apparatus comprising:

a tester driver for applying to the electronic device an input test signal having at least one of an analog component, a digital component, and a differential component;

a differential monitoring device for monitoring the response of the electronic device to obtain analog data;

a tester receiver for monitoring the response of the electronic device to obtain digital data;

a processing unit for processing the analog data and the digital data;

a comparison unit for comparing the processed analog data and the processed digital data;

a first evaluation unit for evaluating the compared data; and

a second evaluation unit for evaluating the electronic device.

15. An apparatus as claimed in claim 14, wherein said processing unit is capable of feeding back analog data for use in processing of the digital data, and of feeding back digital data for use in processing of the analog data.

16. An apparatus as claimed in claim 14, wherein said processing unit is responsive to a comparison result of a preselected type from said comparison unit to again process the analog data and the digital data.

17. Apparatus as claimed in claim 14, wherein said first evaluation unit is responsive to an evaluation result of a first type for adjusting the input test signal.

18. An article, comprising a storage medium having instructions stored thereon, the instructions when executed testing an electronic device by applying to the electronic device an input test signal having at least one of an analog component, a digital component, and a

differential component; actuating a differential monitoring device to monitor the response of the electronic device so as to obtain analog data; actuating a tester receiver to monitor the response of the electronic device so as to obtain digital data; processing the analog data; processing the digital data; comparing the processed analog data and the processed digital data; evaluating the compared data; and evaluating the electronic device based on the evaluated data.

19. An article as claimed in claim 18, wherein during processing of the analog data and the digital data, the instructions when executed feed back analog data for use in processing of the digital data and feed back digital data for use in processing of the analog data.

20. An article as claimed in claim 18, wherein following the comparing, the instructions when executed again process the analog data and the digital data, and compare the reprocessed analog data and the reprocessed digital data.

21. An article as claimed in claim 18, wherein following evaluating the compared data, the instructions when executed adjust the input test signal, and repeat the test.

22. An article as claimed in claim 21, wherein the instructions when executed adjust the test signal by adjusting the test signal frequency.

23. An article as claimed in claim 21, wherein the instructions when executed adjust the test signal by adjusting the test signal level.

24. An article as claimed in claim 18, wherein the instructions when executed monitor the response by determining the rise time and the fall time of a signal in the response.

25. An article as claimed in claim 18, wherein the instructions when executed monitor

the response by determining the ranges of rise times and of fall times within a signal in the response.

26. An article as claimed in claim 18, wherein the instructions when executed monitor the response by monitoring an eye diagram in the response.

27. An article as claimed in claim 26, wherein the instructions when executed monitor the response by monitoring boundary conditions in the eye diagram.

28. A method of evaluating performance of a test environment and an actual electronic device during testing of the electronic device, said method comprising:

creating a virtual test environment emulating an actual test environment in which the actual electronic device is to be tested;

creating a virtual device emulating the actual electronic device;

stimulating the virtual device with an input test signal emulating an actual input signal to be applied to the actual electronic device during testing;

monitoring the response of the virtual device on a virtual differential monitoring device emulating an actual differential monitoring device to obtain analog data;

monitoring the response of the virtual device on a virtual tester receiver emulating an actual tester receiver to obtain digital data;

processing the analog data;

processing the digital data;

comparing the processed analog data and the processed digital data;

evaluating the compared data; and

evaluating the virtual device based on the evaluted data.

29. A method as claimed in claim 28, wherein the processing of the analog data and

processing of the digital data includes feeding back analog data for use in processing of the digital data, and feeding back of digital data for use in processing of the analog data.

30. A method as claimed in claim 28, further comprising, following the comparing, again processing the analog data and the digital data, and comparing the reprocessed analog data and the reprocessed digital data.

31. A method as claimed in claim 28, further comprising, following evaluating the compared data, adjusting the input test signal, and repeating the method.

32. A method as claimed in claim 28, wherein monitoring the response of the electronic device on a virtual differential monitoring device comprises monitoring the response on a virtual differential oscilloscope.

33. Apparatus for evaluating the performance of a test environment and of an actual electronic device, said apparatus comprising:

a virtual device emulating the actual electronic device;

a virtual tester driver, emulating an actual tester driver, to apply to said virtual device an input test signal emulating an actual input signal to be applied to the actual electronic device during testing, the input test signal having at least one of an analog component, a digital component, and a differential component;

a virtual differential monitoring device, emulating on actual differential monitoring device, for monitoring the response of the virtual device to obtain analog data;

a virtual tester receiver, emulating an actual tester receiver, for monitoring the response of the virtual device to obtain digital data;

a virtual processing unit, emulating an actual processing unit, for processing the analog data and the digital data;

a virtual comparison unit, emulating an actual comparison unit, for comparing the processed analog data and the processed digital data;

a first virtual evaluation unit, emulating an actual evaluation unit, for evaluating the compared data; and

a second virtual evaluation unit, emulating an actual evaluation unit, for evaluating the virtual device.

34. Apparatus as claimed in claim 33, wherein said virtual processing unit is capable of feeding back analog data for use in processing of the digital data, and of feeding back digital data for use in processing of the analog data.

35. Apparatus as claimed in claim 33, wherein said differential monitoring device comprises a differential oscilloscope.

36. Apparatus as claimed in claim 33, comprising a general purpose processing system.

37. An article, comprising a storage medium having instructions stored thereon, the instructions when executed evaluating performance of a test environment and an actual electronic device during testing of the actual electronic device by creating a virtual test environment emulating an actual test environment in which the actual electronic device is to be tested; creating a virtual device emulating the actual electronic device; stimulating the virtual device with an input test signal emulating an actual input signal to be applied to the actual electronic device during testing; actuating a virtual differential monitoring device, emulating an actual differential monitoring device, to monitor the response of the virtual device so as to obtain analog data; actuating a virtual tester receiver, emulating an actual tester receiver, to monitor the response of the virtual device so as to obtain digital data; processing the analog data and the digital data; comparing the processed analog data and the processed digital data; evaluating the

compared data; and evaluating the virtual device based on the evaluted data.

38. An article as claimed in claim 37, wherein during processing of the analog data and the digital data, the instructions when executed feed back analog data for use in processing of the digital data and feed back digital data for use in processing of the analog data.

39. An article as claimed in claim 37, wherein following the comparing, the instructions when executed again process the analog data and the digital data, and compare the reprocessed analog data and the reprocessed digital data.

40. An article as claimed in claim 37, wherein following the evaluating of the compared data, the instructions when executed adjust the input test signal, and repeat the method.

41. An article as claimed in claim 27, wherein the instructions when executed monitor the response of the electronic device on a virtual differential monitoring device by monitoring the response on a virtual differential oscilloscope.